ACTIVITY BOOK FOR CHILDREN ON OUR NATURAL ENVIRONMENT

SERIES I: TREES & PLANTS

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PREFACE

The environment we live in, is a very fragile system, delicately balanced by a combination of numerous factors that has sustained life since time immemorial. The thin blanket of atmosphere around the surface of the earth is one of the most critical aspects, responsible to sustain the various life forms as we know it today.

Sadly, there is much evidence to prove, that our beautiful, life sustaining, environment has been taken for granted. Large scale exploitation of the natural resources - pollution & contamination of air, water, soil - for the sake of development and to meet the exorbitant life styles of the elite class of society, have degraded this vital environment.

Our climate is changing and we are already witnessing the various manifestations of it around us – be it unusually hot summers, untimely & erratic rains, water scarcity, or extreme weather events like floods, cyclones etc. According to scientists, unless immediate collective actions are taken to address the issue, the very existence of life as we know it today is at stake. Industrial society, powered by combustion of oil, coal, and gas – over the last 150 years - has changed the basic mechanics of our planet’s self-regulating temperature balance.

The need of the hour is to act now, collectively and individually at all levels, to address this issue of environmental conservation & protection. This book is an attempt to help children to inculcate & understand the importance of protecting and nurturing the environment around us – with Trees as the focal point.

Who can use this book

The book is most suitable for children in the age group preferably between 10 to 12 or for students studying in classes 5th to 7th standard. It can be used at home, where the parents can help the children to get connected with the nature around. This book can also be used by grassroot organizations working among children, to sensitize them on environmental protection through Children’s club activities.

How to use this book

The activity book has been developed in a very user friendly manner. Each section in the book provides certain very basic information / clues about the environment/trees and correspondingly there are activities that the children can work on. There are in total seven activities in this activity book, and it provides spaces for the children to paste pictures, photographs, write notes, observations, draw pictures etc.

It is advisable to have a volunteer or teacher to help the children go through the process. As mentioned earlier, the book can be taken up as an additional learning tool in school, as well as NGOs working among children can take up this intervention as part of children’s club programmes in communities / colonies or villages.

In order to generate a higher level of interest and involvement of the children in the process, the school or the concerned NGO may announce an award / gift for the best activity book in the class / children’s club.

Expected Outcome of using this book:

- Children have a good understanding of the linkages of environmental protection and the wellbeing the human societies
- To get the children to plant trees, care for them, nurture them, learn about them and protect them.
- To make children – ‘Agents of Change’, in our communities to propagate the message of environmental protection & conservation.

-Salmon Jacob
# Table of Contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Introduction</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>Activity 1: Come lets plant</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>Types of trees</td>
<td>7</td>
</tr>
<tr>
<td>4.</td>
<td>Activity 2: Trees in my village / locality</td>
<td>8</td>
</tr>
<tr>
<td>5.</td>
<td>Do trees breathe like us?</td>
<td>12</td>
</tr>
<tr>
<td>6.</td>
<td>Activity 3: Experiment to find out whether leaves breathe</td>
<td>13</td>
</tr>
<tr>
<td>7.</td>
<td>Benefits of trees / plants</td>
<td>14</td>
</tr>
<tr>
<td>8.</td>
<td>Activity 4: Let's list down the benefits of trees / plants</td>
<td>15</td>
</tr>
<tr>
<td>9.</td>
<td>Activity 5: Plants as Medicines</td>
<td>20</td>
</tr>
<tr>
<td>10.</td>
<td>Trees a home to many</td>
<td>23</td>
</tr>
<tr>
<td>11.</td>
<td>Activity 6: A closer look at trees</td>
<td>24</td>
</tr>
<tr>
<td>12.</td>
<td>Activity 7: The tree I planted and adopted</td>
<td>26</td>
</tr>
<tr>
<td>13.</td>
<td>Activity 8: My drawing &amp; writing skills</td>
<td>27</td>
</tr>
</tbody>
</table>
INTRODUCTION

We often see trees & plants in our backyards, along road sides, fields and a large number of them in forests. In recent times there is also much talk about not cutting them down, protecting them and planting more trees.

Trees have also been called as one of our best friends from ancient times. But how much do we know about these friends of ours - trees? Why are they called as our friends?

Take a moment to count ten different types of trees / plants that you know – before you read the next line.

I guess you had to scratch your head a bit to manage to count them. In fact, it is estimated that there are about 2,98,000 species of plants on the earth. However, the sad part is that trees are being cut down at an alarming rate to meet the greed (not the need) of humankind. About 12-15 million hectors of forests are destroyed every year i.e. equivalent to the size of about 36 football fields every minute. Over exploitation of forests and large scale cutting down of trees, can destroy the ecological balance of our natural environment – causing extinction of different varieties of plants & animals, natural disasters like floods, landslides, soil erosion, climate change etc. which can affect our every existence on this earth.

This activity book is an effort to help take us a little closer to the trees and plants of our vicinity and understand them a little better.
ACTIVITY 1: COME LETS PLANT

Things to do

- Select two native variety of trees to be planted
- Identify a suitable location for the plants, where it can be properly cared and nurtured.
- A hole to be dug sufficiently deep and wide to hold the sapling (take help of experienced elders).
- Place the saplings in respective pits and fill the pits with soil.
- In the urban areas, children may plant ornamental plants or other indoor plants which suits the local context
- Adopt a small tree / plant, that is growing in your village / locality, which is vulnerable & needs care

- The name of the trees (saplings) I planted are as given below:
  1) __________________________________________
  2) __________________________________________

- The name of the tree (sapling) I adopted is as given below:
  1) __________________________________________

My Pledge:

- I will ensure that the saplings are watered on a daily basis
  __________________________________________
- I will ensure that the saplings are protected
  __________________________________________
- I will ensure that the saplings are properly cared and nurtured
  __________________________________________

My Plant details:

- Today (    /    /    ), the saplings I planted, has the details as shown below:
  (a) Sapling 1 has a height of _________cm. and has ________ number of leaves on it.
  (b) Sapling 2 has a height of _________cm. and has ________ number of leaves on it
  (c) Sapling I adopted has a height of _________cm. and has ________ number of leaves on it
Trees can be mainly categorized in terms of the duration of leaves and the flowers they produce. According to the leaves duration, the trees can be classified into two types:

1. **Evergreen trees:**
   Evergreen trees are those which hold the leaves throughout the year. There is no time when the tree is bare without leaves. The leaves are gradually renewing, so while some leaves grow, others fall and the tree is always full of leaves.

2. **Deciduous trees:**
   Deciduous trees are those, that remain without leaves during certain periods of the year.

According to the type of flowers, the trees can be categorized into two types:

1. **Flowerless trees (gymnosperms):**
   These are trees that do not bear flowers on it at any point of the year.

2. **Flowering trees (angiosperms):**
   These are trees that bear flowers, during certain period of the year.
ACTIVITY 2: TREES IN MY VILLAGE / LOCALITY

Things to do

• Take a walk in your village and list down the names of different trees you see.

1. ____________________________ 6. ____________________________
2. ____________________________ 7. ____________________________
3. ____________________________ 8. ____________________________
4. ____________________________ 9. ____________________________
5. ____________________________ 10. ____________________________

• Mention the names of trees falling in the category of Evergreen, Deciduous, Flowering & Flowerless trees and paste one leaf of each tree in the boxes given below

Evergreen Trees:

[Boxes for leaf samples]
Deciduous Trees:

Flowering Trees:
Flowerless Trees
TIPS for having pressed leaves or flowers:

Things needed:
1. Leaves / Flowers
2. Newspaper sheets
3. Some heavy substance / heavy weight
4. Wax paper
5. Big books

Method:

Step 1: Collect fresh leaves or flowers from a tree

Step 2: Place the leaves or flowers in between two sheets of newspaper, and allow it to stay for 1 day.

Step 3: Take out the partially dry leaves / flowers from the newspaper and place it inside a big book, in between two sheets of wax paper. Place a heavy weight or any heavy substance on the book and keep it in this position for 2 weeks.

Step 4: After two weeks, remove the dry leaves / flowers and paste it in your activity book.
DO TREES BREATHE LIKE US?

- Trees and plants breathe through small holes in their leaves. These holes are usually on the underside of each leaf.
- The leaves breathe-in carbon dioxide from the air and replaces it with oxygen that we need for breathing and healthy living.
- This system of absorbing gases on which all plants rely for their food is called photosynthesis. In this process, the plants, with the help of sunlight, water, minerals and the green material called chlorophyll within the leaves change the carbon dioxide into food for themselves. While doing this, they release oxygen into the air, which is vital for our lives.

So the trees do the job of purifying the air and maintain a healthy balance of oxygen and other gases in the air – an invaluable service indeed.
ACTIVITY 3: AN EXPERIMENT TO FIND OUT WHETHER LEAVES BREATHE

Things you need:
- Large fresh leaves
- A tray / shallow vessel
- Magnifying glass
- Water

Method:

Step 1: Take some big green leaves

Step 2: Pour little water into a tray, and place the leaves upside down in the tray

Step 3: Keep the tray in sunlight and wait for 15 minutes

Step 4: Look carefully at the leaves, (if possible use a magnifying glass) and write down your observation in the space given below:

Observation:
Benefits of trees / plants

- Trees and plants provide many things that people require to survive and support our daily needs.
- Trees & Plants provide us with food
- Trees provide us with building materials for construction.
- Trees provide for various household things and articles of daily use.
- Trees and plants also have medicinal value.
ACTIVITY 4: LET’S LIST DOWN THE BENEFITS OF TREES / PLANTS

- List down specific benefits of the trees and plants of your village / locality, under different categories like food, household articles, toys, handicrafts, etc. Also paste part of the plant or draw a sample of the item or paste a photograph of the part used & final product, in the space provided below:

Category I: ______________________

a. Name of plant / tree: **Coconut Tree** (example)

   Part of plant / tree used: **Coconut Leaf**
   Final Product: **Leaf Basket**

b. Name of plant / tree: ____________

   Part of plant / tree used: _______________
   Final Product: ____________________
c. Name of plant / tree: ______________

Part of plant / tree used: ___________________ Final Product: _________________________

d. Name of plant / tree: ______________

Part of plant / tree used: ___________________ Final Product: _________________________

e. Name of plant / tree: ______________

Part of plant / tree used: ___________________ Final Product: _________________________
Category 2: ______________________

a. Name of plant / tree: _____________

Part of plant / tree used: ______________
Final Product: _________________________

b. Name of plant / tree: _____________

Part of plant / tree used: ______________
Final Product: _________________________

c. Name of plant / tree: _____________

Part of plant / tree used: ______________
Final Product: _________________________
Category 3: ____________________

a. Name of plant / tree: ________________

Part of plant / tree used: ____________________
Final Product: ____________________

b. Name of plant / tree: ________________

Part of plant / tree used: ____________________
Final Product: ____________________

c. Name of plant / tree: ________________

Part of plant / tree used: ____________________
Final Product: ____________________
Category 4: ______________________

a. Name of plant / tree : ______________

Part of plant / tree used:____________________  Final Product: ______________________

b. Name of plant / tree : ______________

Part of plant / tree used:____________________  Final Product: ______________________

c. Name of plant / tree : ______________

Part of plant / tree used:____________________  Final Product: ______________________
# ACTIVITY 5: PLANTS AS MEDICINES

- Identify and list down the names of medicinal plants / trees available in your village / locality
- Along with the names of trees/plants, mention and stick (or draw) the part of the tree/plant that is used for medicinal purposes and for what ailments eg. bark of tree or skin of fruit etc. (discuss with elders, teachers and friends to collect the relevant information)
- Mention also the method of administering (remedy), as per the example given below

<table>
<thead>
<tr>
<th>Name of plant / tree</th>
<th>part of plant / or draw the Picture</th>
<th>Ailment / remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tulsi (Example)</td>
<td><img src="image" alt="Tulsi Plant" /></td>
<td>Ailment: <em>Cold, Cough &amp; Fever</em></td>
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<td></td>
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<td><strong>Remedy:</strong> <em>Take 5-10 leaves of tulsi and add it into half a cup of boiling hot water. Drink this after about five minutes. Repeat this 5-6 times in a day.</em></td>
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<tr>
<td>Name of plant / tree</td>
<td>part of plant / or draw the Picture</td>
<td>Ailment / remedy</td>
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Trees – A home to many

- A diverse variety of life forms are found to live on trees.
- Some of the animals make their homes in holes of trees, while birds build their nests on branches.
- Millions of insects live in trees.
- Trees provide them with food (fruits, nectar, seeds, leaves) & shelter.
- Trees also protect some of the animals from land based predators, as they can escape to their homes above the ground.
**ACTIVITY 6: A Closer look at the trees**

**Things to do:**

Identify a large tree in your village / locality, sit down under this tree and carefully observe for a couple of days, the different animals, birds, insects, creepers etc. that are seen on the tree & in what way is it connected to this tree. Write down the observations in the space provided here below.

*In case more space is required, please attach / paste additional page in the relevant sections*

**Observations:**

<table>
<thead>
<tr>
<th>Name of the Animal / bird / Insect</th>
<th>In what way is it connected to the tree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spider (example)</td>
<td>Using the branches &amp; leaves of the tree to support its large web, so that it can feed on the other insects that get trapped in its web.</td>
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<tr>
<td>Name of the Animal / bird / Insect</td>
<td>In what way is it connected to the tree</td>
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Activity 7: The tree I planted & adopted

1) Today (        /     /        )(after 3 or 4 months), the saplings I planted have grown and the details are as shown below:

   (a) Sapling 1 has a height of ___________cm. and has ________ number of leaves on it.

   (b) Sapling 2 has a height of ___________cm. and has ________ number of leaves on it.

   (c) Sapling I adopted has a height of ___________cm. and has ________ number of leaves on it.

2) Constraints I came across in nurturing / protecting the saplings I planted.

   ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..
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3) How I overcame and addressed the constraints / problems in nurturing the saplings.

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ACTIVITY 8: My drawing & writing skills

1. Colour the picture below and also draw the landscape of your colony / village / locality surrounding the trees that you have planted.
2. Colour the picture below and also make a drawing of your village which should convey the message of environmental protection.
3. If possible you can paste below a photograph of your saplings or draw / paint the various stages [*also challenges & remedial measures*] of growth of your saplings & the adopted tree.
4. Write a poem or a paragraph about the tree you like the most in your village.
Only for internal circulation

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